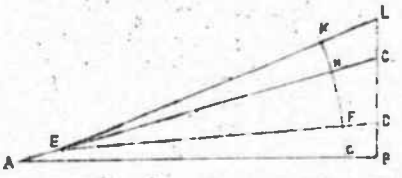
TO APPORTION HEIGHTS SEEN FROM A DISTANCE.

The trigonometrical solution of "Ignoramus's" problem, given in The Builder for December 13, by "E. W." was correctly worked out; but the data upon which it was founded (and therefore the result also) were not very exact. Perhaps, however, a greater degree of accuracy would hardly repay, in most instances, the trouble occasioned by rendering one of the known quantities fractional.

But it will be at once acknowledged that "E. W.'s" diagram is not the best that can be used, when the result is to be obtained by geometrical drawing. Allow me, therefore, to offer to your numerous readers a more accurate mode of proceeding.



Let A B represent the ground line; B G the height of the building; B D that part of it to which the proposed object is to appear equal in height; E the eye of the spectator at any given distance, and at an average height of (suppose) 5½ feet from the ground. Join E B, E D, E C; with centre E and distance E F describe the arc K H F G; measure on the arc a distance H K equal to F G; through E and K draw right line E K L. Then the angles D E B and C E L, at the centre and on equal arcs, are equal; and the perpendicular height C L is the height required.

Perhaps it is as well to add that when the spectator's distance from the building is 300 feet or more, the error occasioned by using "E. W.'s" diagram is very small; but the error would be quite appreciable in some of those numerous instances where the spectator cannot get a full view of the façade at any greater distance than the opposite side of the street.

Humble-minded "Ignoramus" must also remember that his spectator will after all think the object just the right height only so long as he stands at the exact given distance. When he approaches nearer, it will appear too short; when he recedes it will seem too tall.

W. D. Pritchett.

CAMPANOLOGY.

THE BELLS OF LONDON.

Although bells are not an intrinsic part of church architecture, yet, as connected with time-honoured or magnificent modern buildings, they have an interest, if not significancy. The following list of sixty-seven peals in London and vicinity is compiled from about twenty years' observation and local inquiry, and includes the most recent additions.

Peals of Twelve.

	Tenor—Cwt.
St. Saviour, Southwark (1)	52
St. Michael, Cornhill (2) ..	41
St. Giles, Cripplegate (chimes) ..	38
St. Leonard, Shoreditch (chimes) ..	32
St. Martin-in-the-Fields (3)	31
St. Bride, Fleet-street	28

Peals of Ten.

St. Mary-le-Bow (4)	53½
St. Dunstan, Stepney	32
St. Sepulchre, Snow-hill (5)	32
Kingston, Surrey	30
St. Margaret, Westminster (6)	25
St. Alphage, Greenwich (7)	25
Camberwell New Church	25
St. James, Bermondsey	25
St. Magnus, London-bridge	24
St. Clement Dane (chimes) (8) ..	24
Chelsea New Church	23
All Saints, Fulham	21
All Saints, Poplar	21
St. Dionis, Fenchurch-street (chimes)	20
St. John, Horselydown	20
St. Barnabas, Pimlico	20
Streatham Old Church	unknown

Peals of Eight.

St. Lawrence, Jewry	36
St. George-in-the-East (9)	32
Christchurch, Spitalfields	32
St. Andrew, Holborn	28
St. Botolph, Aldgate	28
Hackney Old Church	25
St. Stephen, Westminster (Miss B. Courts's)	25
St. Botolph, Bishopsgate	22½
St. James, Clerkenwell	22
St. Nicholas, Deptford	22
St. Mary, Whitechapel	21
St. Dunstan in-the-East	20
St. Mary, Lambeth	20
Kensington Old Church	20
Trinity Church, Newington	20
South Hackney Church	20
St. Mary, Islington	19½
St. John, Waterloo-road	19½
All Hallows, Barking	19½
St. George, Borough	19
St. Dunstan-in-the-West	19
St. Mary, Rotherhithe	18
St. Mary, Battersea	17
St. Mary, Putney	16½
St. Giles-in-the-Fields	16
Isleworth Church	16
St. Peter, Walworth	15
St. Paul, Shadwell	14
St. Stephen, Coleman-street	14
Christchurch, Surrey	14
St. Matthew, Bethnal-green	12
Woolwich, Richmond, Wandsworth — Old Churches	unknown

Six—et infra.

Westminster Abbey	36
St. Vedast, Foster-lane	21
St. Catherine Cree	19
Bow, Middlesex	12
St. Andrew, Undershaft (10)	unknown
St. Olave, Hart-street ..	unknown
All Hallows, Mark-lane ..	unknown
St. Bartholomew the Great, 4 (11)	about 9 each.
" " Less, 3 ..	about 9 each.

A few sets of three; not rung.

(1.) The heaviest peal in England, except Exeter Cathedral, 10—tenor, 75 cwt. About nine of the bells here are at least five centuries old.

(2.) There was a peal of 12, tenor, 48 cwt., with chimes, at Spitalfield's church, destroyed by fire. There were then said to be only 12 peals of 12 in the kingdom, one (Gresford) in Wales.

(3.) The weekly "leg of mutton and trimmings," left by Nell Gwynne, the kind-hearted, though erring and frail, and afterwards penitent, mistress of Charles II., who originated Chelsea Hospital.

(4.) Probably only *six* when they encouraged Dick Whittington.

"Turn a-gain Whit-ting-ton,
Thrice May-or of Lon-don."

(5.) Eleven; but one not rung with the rest.

(6.) The sound deadened by the overhanging abbey.

(7.) Two added lately.

(8.) Ditto.

(9.) This church, Stepney, and Shoreditch, same key and weight of tenor.

(10.) Very poor toned; but the handsomest church which survived the "fire." St. Catherine Cree, farther in same street, built in the reign of Charles I., mixed Gothic and Italian, curious. Both little known.

(11.) Oldest church in London; but little known as such.

J. D. P.

Monument to Charles XII. of Sweden.—The *Athenæum* says,—"When Charles the Twelfth, King of Sweden, was killed by a ball directed against him from the fortress of Friedrichstadt, to which he had laid siege, a simple column of marble, bearing no other inscription than the monarch's name and the date of his death, was raised to mark the spot. This column having gradually given way before the piece-meal depredations of relic-loving tourists until not a fragment is left,—the Norwegian Government has determined that a worthier monument shall occupy its place; and having submitted the matter to public subscription, three-fourths of the sum needed was offered in less than two days. The work is to be the subject of competition."

"CHEAP" FOUNDATIONS FOR BRIDGES.

In your paper of the 20th ult. there are, in an article headed "Westminster-bridge," some sentences calling upon you to exercise your influence in deterring the public from countenancing so-called cheap foundations such as are now being put in at Rochester and elsewhere. The writer, who signs himself "A Builder," instances the failures of the foundations of Westminster and Blackfriars bridges, as affording lessons against their use. The reason of the failure of the foundations of the two last-named bridges is, that being upon caissons, without piles, the scour of the river bed has undermined them, which the piles would have prevented. The foundations for Rochester-bridge consist of cast-iron cylinders, 7 feet diameter, sunk deep below the bed of the river, filled with brick-work in cement: these brick piers, protected by thin iron casing, rest upon the chalk, and are of such an area as to present at least a square foot of surface to every four tons weight of the superstructure. No kind of foundation can be more certainly relied upon, their depth below the bed of the river precluding the possibility of their being affected injuriously by any alteration in it. They certainly are *cheap* foundations, for no cofferdam is required to get them in,—each cylinder being one, a *permanent* one, and all who have had any experience in ordinary dam work will know that they are *always* expensive, often uncertain in their purpose, and, in the case of Rochester, would have been *impossible*.

"Erumnabilis experientia me docuit."

C.

PARKS FOR THE PEOPLE.

The forest of Hainault, in Essex, on the borders of London, is about to be alienated from the Crown. Before this is done, I would propose that three or four hundred acres should be reserved, to form a public park.

The close neighbourhood of this disposable remnant of the *folcland* of our Saxon forefathers makes it very desirable that a portion of it, as a breathing-place of pure air, should be dedicated to the community. How much such places for healthy recreation are needed, it is superfluous to tell.

In the proposed park, there might be, hereafter, raised another *ferrocitreous* temple—of statuary, for example, wherein the history of our country might be read in marble and bronze,—where the memories of illustrious men of our land might be gratefully preserved.

And this brings to my recollection that our great Alfred—the poet, patriot, warrior, and minstrel king, the liberator and reformer of his country—deserves the first place. Let the *folcland* park be named, after him. "King Alfred Park"—a fit acknowledgment of the nation's sense of their obligations to the king who declared in his will that he "left his subjects free as their thoughts."

The year 1852 will probably see the people in possession of rights of citizens such as they had in Alfred's time, without a class of *thralls*, to make universal freedom a mere name. The same year should be chosen for an act of grace on the part of the gracious successor of Alfred, who so worthily occupies the throne of Britain, and "in whose veins the blood of Alfred flows."

Optifex.

Damp Houses.—We understand that amongst the MSS. left by Professor Anderson, and in the custody of the curator of the Andersonian University of Glasgow, is a paper treating "Of the Moisture in Houses that are situated on Prominent Rocks." Perhaps some Glasgow correspondent would take an opportunity of examining its contents, and forward a brief of them *pro bono*.

Ironstone in Northamptonshire.—Abundance of iron ore, according to the local *Herald*, has been found in the county of Northampton, bearing 35 to 50 per cent. of iron, while stone with 20 per cent. of the ore is worth carriage. Preparations are in progress for its purchase, and either its transfer to the coal districts, or of coal to the spot, by rail.

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